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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,168	01/18/2002	Tatsuya Kondoh	P21566	7596

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EXAMINER

WALKENHORST, DAVID W

ART UNIT PAPER NUMBER

2831

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/050,168

Applicant(s)

KONDOH ET AL.

Examiner

W. David Walkenhorst

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (US 5,610,447).

Regarding claim 9, Nishikawa et al. discloses at least one main harness (see col. 3, lines 41-43 and Figure 1) having at least one group of wires aligned in a substantially parallel direction; at least one sub harness (see col. 3, lines 42-43) having at least one group of wires, and a coupling structure (J₁) configured to couple the main and sub harnesses together to form a complete wiring harness that extends to interconnect the

first and second device connectors. Nishikawa et al. does not disclose that the group of wires has at least one joint portion and that the joint portion is provided only in the sub harness and with the main harness free of any joint portions. The examiner takes Official Notice that the use of joint portions was well known in the wire harness art at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the group of wires with at least one joint portion for the purpose of allowing electrical connection with other electrical wires, since the use of joint portions was well known in the wire harness art at the time the invention was made. Further, It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the joint portions at whatever location is necessary on the harness depending on the intended use of the harness, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

4. Claims 4-6, 8 and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (US 5,610,447) in view of Bakermans (US 4,493,147).

Regarding claim 4, Nishikawa et al. discloses at least one main harness (see col. 3, lines 41-43 and Figure 1) having at least one group of wires aligned in a substantially parallel direction; at least one sub harness (see col. 3, lines 42-43) having at least one group of wires, and a coupling structure (J_1) configured to couple the main harness and sub harness together to form a complete wiring harness that extends to interconnect the

first and second device connectors, but does not disclose that the wire crossover is formed only in the sub harness and that the main harness free of any wire crossovers. Bakermans teaches a group of wires having at least one wire crossover formed therein in col. 1, lines 32-36. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a group of wires with a crossover in a wire harness for the purpose of allowing desired connection of individual wires. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the crossovers at whatever location or locations are necessary on the harness depending on the intended use of the harness, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

Regarding claims 5 and 16, Nishikawa et al. as modified by Bakermans discloses all of the limitations of claims 4 and 12, but does not specifically disclose that the coupling structure comprises a main harness side connector and a sub harness side connector which are mutually engageable with each other (see Nishikawa, Figure 1), but does not specifically disclose that a plurality of electrical terminals are arranged in the main harness side and sub harness side connectors respectively in such a manner as: (a) to correspond to an electrical terminal arrangement pattern of the first device connector so that the wires of the main harness are aligned in a substantially parallel manner; and (b) not to correspond to an electrical terminal arrangement pattern of the second device connector so that the wires of the sub harness are not aligned in a substantially parallel manner. It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the side and sub harness connectors

in any manner consistent with the use of the particular wire harness, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

Regarding claim 6, Nishikawa et al. as modified by Bakermans above further discloses that the main harness comprises at least one end connector for connection to the first device connector, and wherein a plurality of electrical terminals are arranged in the end connector in such a manner as to correspond to the electrical terminal arrangement pattern of the first device connector (see Nishikawa, Figure 1).

Regarding claim 8, Nishikawa et al. as modified by Bakermans above discloses all of the limitations of claim 4, but does not specifically disclose that the main harness constitutes approximately 90% - 95% of a total length of the wiring harness, and the sub harness constitutes the remaining portion of the total length of the wiring harness. It would have been an obvious matter of design choice to vary the length of each part of the harness, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 10, Nishikawa et al. discloses a first main harness (see col. 3, lines 41-43 and Fig. 1) having at least one group of wires aligned in a substantially parallel direction; at least first and second sub harnesses (see col. 3, lines 42-43, the engine control harness and the engine compartment harness) each having at least one group of wires; at least first (J_1) and second (J_2) coupling members configured to couple the first and second main harnesses and the first and second sub harnesses together

respectively to form at least first and second wiring harnesses that extend to interconnect the first and second device connectors and the first and second external connectors; wherein the wires of the first and second sub harnesses are configured to extend dispersedly between the first and second device connectors and the first and second coupling members. Nishikawa et al. does not disclose that at least one wire crossover is formed, and that the main harness free of any wire crossovers. Bakermans teaches a group of wires having at least one wire crossover formed therein in col. 1, lines 32-36. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a group of wires with a crossover in a wire harness for the purpose of allowing desired connection of individual wires. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the crossovers at whatever location or locations are necessary on the harness depending on the intended use of the harness and to make at least one of the wires of the first sub harness intersecting with at least one of the wires of the second sub harness, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

Regarding claim 11, Nishikawa et al. as modified by Bakermans above further discloses that the first and second main harnesses respectively comprise first and second end connectors, wherein the first and second coupling members and the first and second end connectors respectively comprise a predetermined terminal arrangement pattern that are respectively configured to correspond to an electrical terminal arrangement pattern of the first and second external connectors, so that the

wires of the first and main harness are aligned in a substantially parallel manner (see Nishikawa, Figure 1).

Regarding claim 12, Nishikawa et al. discloses a main harness (col. 3, lines 41-43 and Fig. 1) including only a plurality of first wires, all of said first wires aligned substantially parallel with one another; a sub harness (col. 3, lines 42-43) including a plurality of second wires, and a connecting device (J_1) configured to connect said main harness to said sub harness to form said composite wire harness, but does not disclose at least one of said second wires being a crossover wire. Bakermans teaches at least one wire being a crossover wire in col. 1, lines 32-36. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a group of wires with a crossover in a wire harness for the purpose of allowing desired connection of individual wires.

Regarding claim 13, Nishikawa et al. as modified by Bakermans above discloses all of the limitations of claim 12 above, but does not specifically disclose that said sub harness is substantially shorter than said main harness. It would have been an obvious matter of design choice to vary the length of each part of the harness, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 14, Nishikawa et al. as modified by Bakermans above discloses all of the limitations of claim 13 above, but does not specifically disclose that said sub harness has a length of approximately 5% to 10% of the length of said composite wire

harness. It would have been an obvious matter of design choice to vary the length of each part of the harness, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 15, Nishikawa et al. as modified by Bakermans above discloses all of the limitations of claim 13 above, but does not specifically disclose that said first wires have a length of approximately 2000 mm to 3000 m, and said second wires have a length of approximately 100 mm. It would have been an obvious matter of design choice to vary the length of each part of the harness, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 17, Nishikawa et al. as modified by Bakermans above discloses all of the limitations of claim 16 above and further disclose that said main harness comprises at least one end connector for connection to said first device connector, and wherein a plurality of electrical terminals are arranged in said end connector in such a manner as to correspond to said electrical terminal arrangement pattern of said first device connector (see Nishikawa, Figure 1).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (US 5,610,447) and Bakermans (US 4,493,147) in view of Shibayama et al. (US 6,470,567).

Regarding claim 7, Nishikawa et al. as modified by Bakermans above disclose all of the limitations of claim 5, and further disclose measuring the wires collectively at the same time; mounting leading ends of the wires in pressure contact with an end connector collectively at the same time, thereby providing the end connector for connection to the first device connector at one end of the main harness; and cutting the other ends of the wires collectively at the same time (see Nishikawa, col. 3, lines 41-43 and col. 4, lines 25-36), but does not disclose crimping the other ends of the wires to terminal fittings, and mounting the terminal fittings in the main harness side connector, thereby providing the main harness side connector for connection to the sub harness side connector at the other end of the main harness. Shibayama et al. teaches crimping the other ends of the wires to terminal fittings, and mounting the terminal fittings in the main harness side connector in col. 7, lines 13-19 and Figs. 1A-1C. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of crimping the ends of the wires to terminal fittings for the purpose of providing connections for the main and sub harness side connectors at in other locations.

Allowable Subject Matter

6. Claims 1-3 are allowed.
7. The following is an examiner's statement of reasons for allowance:

The primary reason for the indication of the allowability of claims 1-3 is the inclusion therein, in combination as currently claimed, of the limitation of "wherein the relay connectors of the first and second sub harnesses, the relay connectors and the

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end connectors of the first and second main harnesses include a predetermined terminal arrangement pattern that is configured to correspond to the predetermined second terminal arrangement pattern of the first and second external connectors, so that the wire of the first main harness and the wire of the second main harness extend without intersecting with each other, whereby the end and relay terminals of the first and second main harnesses can be mounted in the end and relay connectors of the first and second main harnesses respectively during subassembly, and whereby the first and second main harnesses can be sub-assembled independently of each other; and wherein the end connectors of the first and second sub harnesses include a predetermined terminal arrangement pattern that is configured to correspond to the predetermined first terminal arrangement pattern of the first and second device connectors which does not correspond to the predetermined second terminal arrangement pattern of the first and second external connectors, so that the wire of the first sub harness and the wire of the second sub harness extend, intersecting with each other, whereby the first and second sub harnesses cannot be subassembled independently of each other". These limitations were found in claims 1-3 and are neither disclosed nor taught by the prior art of record, alone or in combination.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sakamoto et al., Yanase et al., Shibata et al., Takiguchi et al., and Plummer are cited to show examples of wiring systems similar to applicant's claimed invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Walkenhorst whose telephone number is (703) 306-5402. The examiner can normally be reached on M, Tu, Th, F 8:00AM-5:30PM, and alternate Weds.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-0956. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



**CHAU N. NGUYEN
PRIMARY EXAMINER**

Walkenhorst:wdw
May 29, 2003